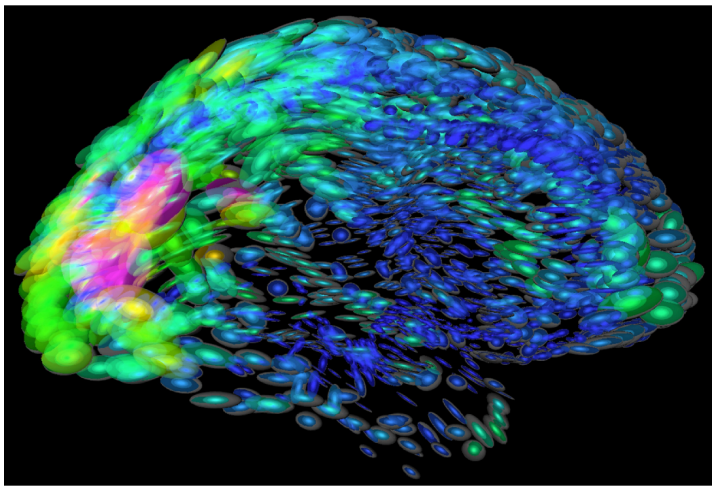
NAVAL RESEARCH LABORATORY

TECHNOLOGY LICENSING OPPORTUNITY

COGNITIVE SIMULATION TOOL



The Naval Research Laboratory (NRL) has patented an artificial intelligence and cognitive modeling technology related to computerized network interactions using knowledge base systems. The NRL patented technology applies to a learning algorithm grounded in social science to model interactions of agents/actors from different groups or cultures. The tool embedding this technology uses agent-based simulation of preference-driven agents endowed with cognitive maps representing their causal beliefs. Agents modify their cognitive maps through social learning using particle swarm optimization. A user can seed the simulation with diverse belief structures and activate the simulation to predict coalitions/conflicts and shifts of allegiance.

References

Related U.S. Patent Number 8,112,369 entitled "Methods and Systems of Adaptive Coalition of Cognitive Agents"

Available for License: 8,112,369

Advantages/Features

Measures impact of foreign presence on a society before belief systems collide

Measures impact of organizational changes

Predicts coalitions and shifts of allegiance

Facilitates what-if simulations of information warfare

Predicts population attitudes in response to exogenous events

Visualizes group formation

Applications

Homeland Security

Education

Video Gaming System

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AI03